(19) World Intellectual Property **Organization**

International Bureau





(43) International Publication Date 13 October 2005 (13.10.2005)

PCT

(10) International Publication Number WO 2005/096532 A1

(51) International Patent Classification⁷: H04Q 7/38

H04J 11/00,

(21) International Application Number:

PCT/IB2005/000772

- (22) International Filing Date: 24 March 2005 (24.03.2005)
- (25) Filing Language:

English

(26) Publication Language:

rent, Quebec H4S 2A9 (CA).

(30) Priority Data: 60/558,329

(71) Applicant:

31 March 2004 (31.03.2004) US

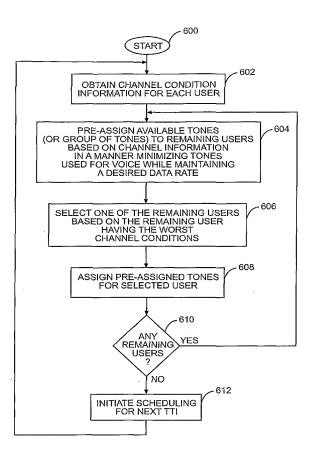
English

NORTEL NETWORKS LIMITED [CA/CA]; 2351 Boulevard Alfred-Nobel, St.

- (72) Inventors: WU, Jianming; 13-23 Bayshore Drive, Nepean, Ontario K2B 6M7 (CA). TONG, Wen; 12 Whitestone Drive, Ottawa, Ontario K2C 4A7 (CA). ZHU, Peiving; 16 Pebble Creek Crescent, Kanata, Ontario K2M 2L4 (CA).
- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM,

[Continued on next page]

(54) Title: ADAPTIVE SCHEDULING OF VOICE TRAFFIC IN A MULTI-CARRIER COMMUNICATION ENVIRONMENT



(57) Abstract: The present invention provides a technique for scheduling data, and in particular, scheduling real-time or voice data for transmissions during a transmit time interval in a multi-carrier communication environment. For each transmit time interval, channel condition indicia for multiple users is determined, and an iterative scheduling process is then implemented based in part on the channel condition indicia. The iterative scheduling initially preassigns select tones for each of the remaining users that have not been permanently assigned tones for the given transmit time interval. Next, the remaining user having the least favorable channel conditions is selected as an active user. The newly selected active user is then permanently assigned the select tones that were initially pre-assigned to The permanently assigned that particular user. tones are removed from consideration, and the process is repeated until all the remaining users are permanently assigned unique tones for scheduling.

WO 2005/096532 A1

ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

Declaration under Rule 4.17:

— of inventorship (Rule 4.17(iv)) for US only

Published:

with international search report